



## NOAA's NWS Weather Event Simulator Version 5.0

Michael Magsig<sup>12</sup> and Timothy Decker<sup>12</sup>

<sup>1</sup>Cooperative Institute for Mesoscale Meteorological Studies (CIMMS)  
and

<sup>2</sup>NOAA's Warning Decision Training Branch (WDTB)



### WES5.0

#### Presentation Details:

**Slides:** 32

**Duration:** 00:12:08

**Filename:** Z:\tools\wes\WES5\_0\WES5.0.ppt

#### Presenter Details:

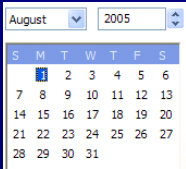
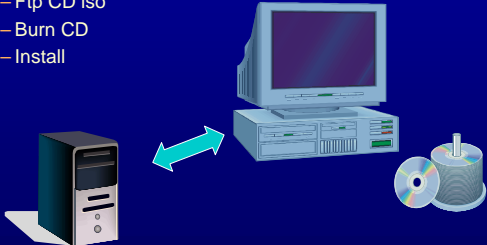
**Name:** Mike Magsig and Timm Decker

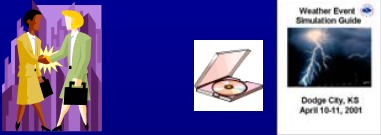


**Title:** WES Team Members

**Email:** michael.a.magsig@noaa.gov, timothy.b.decker@noaa.gov

**Bio:**

<p><b>Slide 1</b>  <b>NOAA's NWS Weather Event Simulator Version 5.0</b>  Duration: 00:00:15  Advance mode: Auto</p>	  <p style="text-align: center;"><b>NOAA's NWS Weather Event Simulator Version 5.0</b></p> <hr/> <p style="text-align: center;">Michael Magsig<sup>12</sup> and Timothy Decker<sup>12</sup></p> <p style="text-align: center;"><sup>1</sup>Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) and <sup>2</sup>NOAA's Warning Decision Training Branch (WDTB)</p>  	<p><b>Notes:</b></p> <p>Welcome to the overview of NOAA's NWS Weather Event Simulator Version 5.0. Mike Magsig and Timm Decker, members of the WES team, will be telling you the latest information you need to know about WES5.0.</p>
<p><b>Slide 2</b>  <b>What You Will Take From This Presentation</b>  Duration: 00:00:25  Advance mode: Auto</p>	<p style="text-align: center;"><b>What You Will Take From This Presentation</b></p> <hr/> 	<p><b>Notes:</b></p> <p>This presentation will provide you with 1) links to important WES5.0 documents, 2) shipping information and schedules, 3) who to contact for shipping and installation problems, 4) what is new with WES5.0, 5) WES5.0 installation impacts, and 6) upcoming WES changes on the horizon.</p>
<p><b>Slide 3</b>  <b>Read These to Save Yourself Some Hassle</b>  Duration: 00:00:26  Advance mode: Auto</p>	<p style="text-align: center;"><b>Read These to Save Yourself Some Hassle</b></p> <hr/> <ul style="list-style-type: none"> <li>• Release notes  – <a href="#">RELEASENOTES_WES5.0.pdf</a></li> <li>• Install Instructions  – <a href="#">INSTALL_WES5.0.pdf</a></li> </ul> 	<p><b>Notes:</b></p> <p>For the complete overview of everything new in WES5.0, see the release notes. They are short. You might want to check them out now by clicking on the link. Most of the release note information will be covered in this presentation.</p> <p>The install instructions, <a href="#">INSTALL_WES5.0.pdf</a>, contain lots of important information and tutorials for both the IT and the training facilitator. Check out the table of contents by clicking on the link to see all that is inside. Or check it out on your WES machine at <a href="#">/awips/fixa/INSTALL_WES5.0.pdf</a>.</p>

<p><b>Slide 4</b>  <b>NOAA Folks: CD Shipped Aug. 1</b>  Duration: 00:00:36  Advance mode: Auto</p>	<p><b>NOAA Folks: CD Shipped Aug. 1</b></p> <ul style="list-style-type: none"> <li>Shipping problems, email Timm at:  <a href="mailto:Timothy.B.Decker@noaa.gov">Timothy.B.Decker@noaa.gov</a></li> <li>Install problems  – Email <a href="mailto:soo_wes@comet.ucar.edu">soo_wes@comet.ucar.edu</a></li> </ul> 	<p><b>Notes:</b></p> <p>CDs were shipped to NOAA folks on our distribution list on August 1, 2005. If you haven't received your CD by August 5, 2005, or you have any other shipping issues, contact Timm at <a href="mailto:Timothy.B.Decker@noaa.gov">Timothy.B.Decker@noaa.gov</a>. For installation problems, send email to the soo_wes list. To subscribe to the soo_wes email list, email the SOO/STRC coordinator, Bob Rozumalski, at <a href="mailto:rozumal@ucar.edu">rozumal@ucar.edu</a>.</p>
<p><b>Slide 5</b>  <b>Non-NOAA Folks: FTP Now Available</b>  Duration: 00:00:23  Advance mode: Auto</p>	<p><b>Non-NOAA Folks: FTP Now Available</b></p> <ul style="list-style-type: none"> <li>Email  <a href="mailto:Timothy.B.Decker@noaa.gov">Timothy.B.Decker@noaa.gov</a> <ul style="list-style-type: none"> <li>Ftp CD iso</li> <li>Burn CD</li> <li>Install</li> </ul> </li> </ul> 	<p><b>Notes:</b></p> <p>WDTB is now releasing WES5.0 via ftp for non-NOAA folks. This is to encourage collaboration with the NWS. Anyone interested in obtaining WES5.0 should email Timm. You will need to download the CD iso and burn a CD in order to install WES5.0.</p>

<p><b>Slide 6</b>  <b>Non-NOAA Folks Collaborate With Local NWS Office</b>  Duration: 00:00:33  Advance mode: Auto</p>	<p><b>Non-NOAA Folks Collaborate With Local NWS Office</b></p>  <ul style="list-style-type: none"> <li>• Data cases</li> <li>• AWIPS/WES expertise</li> </ul>	<p><b>Notes:</b></p> <p>Non-NOAA folks getting started will need guidance and support in running WES and AWIPS, but the current NWS support system is not set up to handle that. We recommend collaborating with local NWS forecast offices to obtain data cases and to develop some expertise in running AWIPS and WES. Some Universities have expressed interest in forming an email support group for non-NOAA support. We think that would be a big step in the right direction for helping proliferate collaboration with the NWS.</p>
<p><b>Slide 7</b>  <b>Please Don't Give Out WES to Others</b>  Duration: 00:00:24  Advance mode: Auto</p>	<p><b>Please Don't Give Out WES to Others</b></p> <ul style="list-style-type: none"> <li>* WES© software free for non-profit use <ul style="list-style-type: none"> <li>– license agreement in install</li> <li>– OU requires tracking and single distribution point</li> </ul> </li> </ul> 	<p><b>Notes:</b></p> <p>WES software is free for non-profit use, but the WES software written by cooperative researchers at the University of Oklahoma has to be distributed and tracked in an organized manner. There is a license agreement in the installation scripts if you would like to know more. Please don't give WES out to others. Have them send Timm an email, and he will give them access.</p>
<p><b>Slide 8</b>  <b>AWIPS and WES Run on Many Linux Distributions</b>  Duration: 00:00:27  Advance mode: Auto</p>	<p><b>AWIPS and WES Run on Many Linux Distributions</b></p> <ul style="list-style-type: none"> <li>• 2005 AWIPS migration <ul style="list-style-type: none"> <li>– RH7.2 to RHEL3</li> </ul> </li> <li>• WES <ul style="list-style-type: none"> <li>– Following AWIPS</li> </ul> </li> </ul> 	<p><b>Notes:</b></p> <p>Now it is time to move on to the important information you need to know about WES5.0. AWIPS and WES run on many Linux distributions, though for years AWIPS has been designed to run on something close to Redhat 7.2. By fall of 2005, AWIPS will officially migrate from RH7.2 to RHEL3, and WES will follow close behind. If you stray too far from the AWIPS baseline linux distribution, you may run into a problem or two. So far no fatal conflicts have arisen with AWIPS, WES, and Linux.</p>

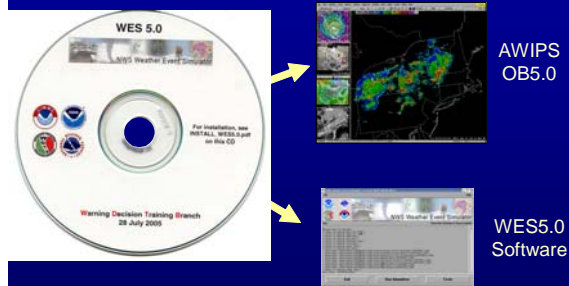
## Slide 9

### The WES5.0 Install CD Contains AWIPS and WES Software

Duration: 00:00:14

Advance mode: Auto

### The WES5.0 Install CD Contains AWIPS and WES Software



### Notes:


The WES5.0 release CD comes with AWIPS OB5.0 (from the AWIPS release CDs) and WES5.0 software. The WES software is essentially a data pump and an interface to AWIPS.

## Slide 10

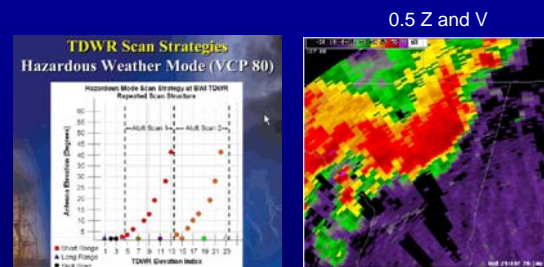
### TDWR Now Works with WES5.0

Duration: 00:00:35

Advance mode: Auto

 Flash movie: tdwrzv.swf  
Display : In Articulate player

### TDWR Now Works with WES5.0



### Notes:

TDWR radar data processing is one of the new additions to WES5.0. The one minute data and three minute sub-volume scans in hazardous weather mode are enlightening.

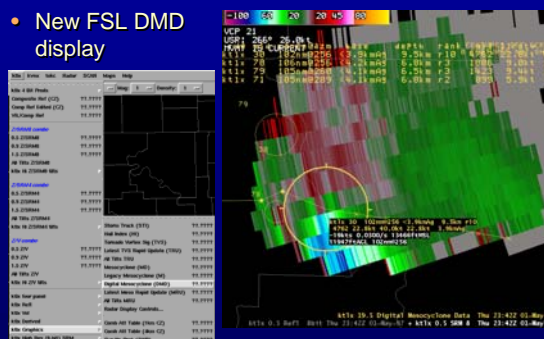
## Slide 11

### “Dig DMD” Now Works with WES5.0

Duration: 00:00:22

Advance mode: Auto

### “Dig DMD” Now Works with WES5.0



### Notes:

The “Dig DMD” product also works with WES5.0. This new display of the MDA output under the “Radar” and “Graphics” submenu offers a low-overhead configurable view of this robust circulation detection algorithm, including cursor readouts of the table information over the icons.

## Slide 12

### You Need to Create New AWIPS Localizations With Every WES/AWIPS Build

Duration: 00:00:30

Advance mode: Auto

#### You Need to Create New AWIPS Localizations With Every WES/AWIPS Build

- For AWIPS customization guidance see:
  - [INSTALL\\_WES5.0.pdf](#)

##### NWS Weather Event Simulator 5.0 Instructions

NWS Weather Decision Training Branch  
Norman, OK

###### Contents

WES 5.0 Release Notes

1) Requirements and Overview

2) Back Up Previous WES Install

3) Install WES 5.0

4) Install Database Software

5) Create a New WES5.0 Local Case (for the 100% Default Case Case)

6) Customize AWIPS OB5.0 in WES5.0

7) Create a New Localization for Your Local Case

8) Link Local Customizations to All Other CWAs

9) Create a New Localization for a Non-Local Case

10) Create a New WES5.0 Local Case

11) Create a New WES5.0 Local Case

12) Database Schema Data

13) Database Case History

14) Appendix A: Example Data

15) Appendix B: Creating FTS Data

16) Appendix C: Using CWA, SCAN, and DMD Data to Use with OB5.0

- 6) Customize AWIPS OB5.0 in WES5.0
- 7) Create a New Localization for Your Local Case
- 8) Link Local Customizations to All Other CWAs
- 9) Create a New Localization for a Non-Local Case

## Notes:

AWIPS customization is one of the biggest headaches for WES. Every time an AWIPS build is released (and WES is released), you have to recreate your localization for things to work right (among other things). Running old localizations with new data sets will often cause significant problems.

The install instructions come with sections detailing how to customize WES from an AWIPS, and also how to infuse your local AWIPS customizations into localizations from other CWAs. Follow these to train like you fight. These instructions were designed for collaboration with the local AWIPS focal point.

## Slide 13

### All Old Archived FFMP, SCAN, and DMD Data Must be Recreated for OB5

Duration: 00:00:30

Advance mode: Auto

#### All Old Archived FFMP, SCAN, and DMD Data Must be Recreated for OB5

- See [INSTALL\\_WES5.0.pdf](#)
  - How to recreate data for OB5.0



## Notes:

One of the biggest issues with the OB5.0 in WES5.0 is that FFMP, SCAN, and DMD data all changed format. Your old archived FFMP, SCAN, and DMD data will not work to varying degrees with the OB5.0 in WES5.0. The [INSTALL\\_WES5.0.pdf](#) will tell you how to recreate old FFMP, SCAN, and DMD data for use with OB5.0. If you run into any problems with this, don't hesitate to email the [soo\\_wes](#) list. Timm and I monitor that continuously along with others.

## Slide 14

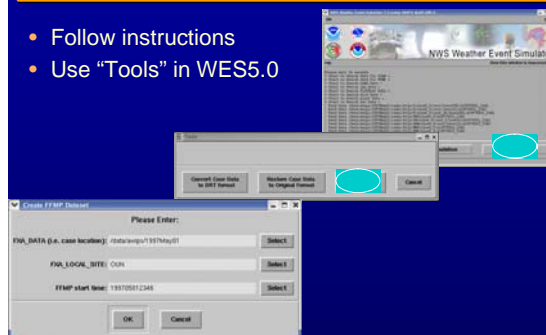
### How to Recreate FFMP Data

Duration: 00:00:17

Advance mode: Auto

### How to Recreate FFMP Data

- Follow instructions
- Use "Tools" in WES5.0



### Notes:

For old FFMP data, the data must be recreated using OB5.0 and the Tools button in WES5.0. See the instructions in INSTALL\_WES5.0.pdf for all the important details. There are a few things that need to be in place in order to create FFMP data (basin files, FFG, DHR files, an OB5.0 localization run with the – scan switch). Once the system has been configured to run FFMP, the FFMP generation tool is simple to run (just enter your case and your time).

## Slide 15

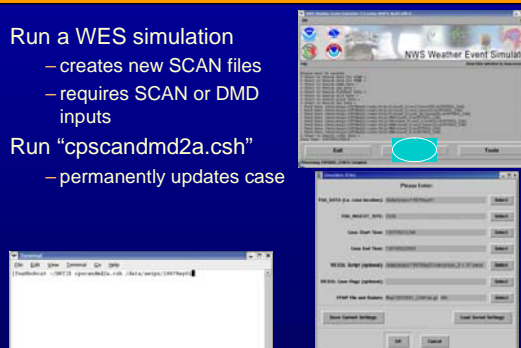
### How to Recreate SCAN or DMD Data

Duration: 00:00:30

Advance mode: Auto

### How to Recreate SCAN or DMD Data

- Run a WES simulation
  - creates new SCAN files
  - requires SCAN or DMD inputs
- Run "cpscandmd2a.csh"
  - permanently updates case



### Notes:

See the INSTALL\_WES5.0.pdf for all the details on recreating SCAN or DMD data for use with OB5.0. You will need the SCAN or DMD inputs to be able to create new data. If you have the inputs, all you need to do is run a simulation to create new data. After the simulation is over you can permanently update the SCAN or DMD files by running the cpscandmd2a.csh script, per the instructions.

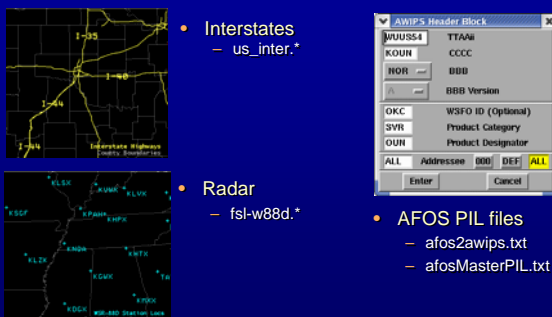
## Slide 16

### Updated AWIPS Configuration Files

Duration: 00:00:18

Advance mode: Auto

### Updated AWIPS Configuration Files



### Notes:

Some important AWIPS configuration files were updated with the OB5.0 in WES5.0. The interstates shape files (us\_inter.\* in nationalData) were updated with the in010605.\* files. The radar shape files (fsl-w88d.\*) were updated with w805my05.\* files. And the afos2awips.txt and afosMasterPIL.txt were also updated. These NDM files are managed separate from the AWIPS release CDs, and there may be times where you need to update these files with local versions.



## Slide 17

### Copy Local Procedures Using “userPrefs”

Duration: 00:00:17

Advance mode: Auto

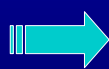
### Copy Local Procedures Using “userPrefs”

- No more “procs” directory in OB5.0

AWIPS Workstation



userPrefs



WES Workstation



userPrefs

### Notes:

Local procedures in OB5.0 are now stored in the userPrefs directory. “userPrefs” used to be a link that pointed to procs. Now, procs is gone. So all you need to worry about is copying over /data/fixa/userPrefs to /data/awips/<your\_case>/userPrefs per the INSTALL\_WES5.0.pdf.

## Slide 18

### Radar Tilts Update More Realistic With New 15 Second Search

Duration: 00:00:28

Advance mode: Auto

### Radar Tilts Update More Realistic With New 15 Second Search

- Better for “all tilts”

2305 Volume Scan



tilt time

19.5 23:09:00

15.6 23:08:45

12.5 23:08:30

10.0 23:08:15

8.0 23:08:00

6.4 23:07:45

5.1 23:07:45

4.0 23:07:30

3.2 23:07:15

2.4 23:07:00

1.8 23:06:45

1.3 23:06:30

0.9 23:06:00

0.5 23:05:30

### Notes:

In WES5.0 we changed the search frequency from 1 minute to 15 seconds in order to better approximate the tilt arrivals in a simulation. Now all tilts is more realistic with almost every tilt arriving uniquely in a simulation.

## Slide 19

### Here is What You Will See in the WES Log Window

Duration: 00:00:09

Advance mode: Auto

### Here is What You Will See in the WES Log Window



### Notes:

The user will notice the tilts arriving separately, particularly in the upper tilts. And the log window will now include the processing time down to the seconds.



## Slide 20

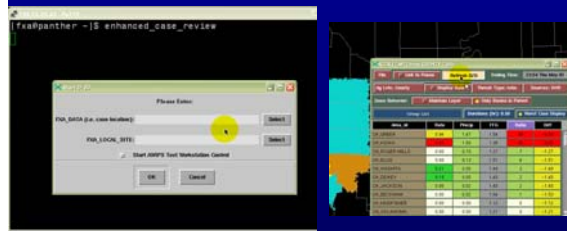
### “enhanced\_case\_review” Makes Viewing FFMP/SCAN Easier

Duration: 00:00:24

Advance mode: Auto

### “enhanced\_case\_review” Makes Viewing FFMP/SCAN Easier

- Start D2D (no simulation)
  - FFMP table “Refresh D2D” works



### Notes:

A new way to start D2D called “enhanced\_case\_review” has been developed in WES5.0. This allows the tables in FFMP and SCAN to fully work without running a simulation by starting the notificationServer and the CommsRouter. So using this tool will allow the “Refresh D2D” option to work in FFMP and more.

“enhanced\_case\_review” is for use when not running a simulation. The previously existing “start\_awips” program is still to be used when running a simulation.

## Slide 21

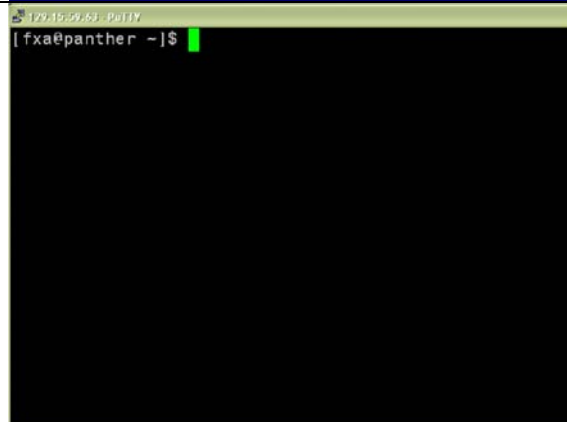
### Slide 21

Duration: 00:00:18

Advance mode: Auto



Flash movie: ecr8.swf  
Display : In Articulate player



### Notes:

This movie loop shows how to start enhanced\_case\_review, and it shows the FFMP table working without a simulation.

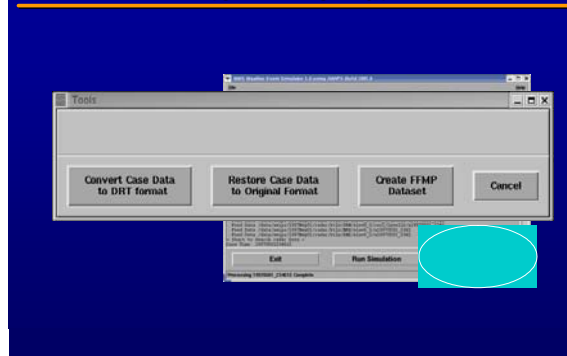
## Slide 22

### All Data Visible Immediately After Convert to DRT Format

Duration: 00:00:15

Advance mode: Auto

### All Data Visible Immediately After Convert to DRT Format



### Notes:

When a case is being converted to DRT format, WES5.0 will now make the links to the hidden files after each file it processes. Before this, you had to enter the start time to see any data after converting to DRT format.

## Slide 23

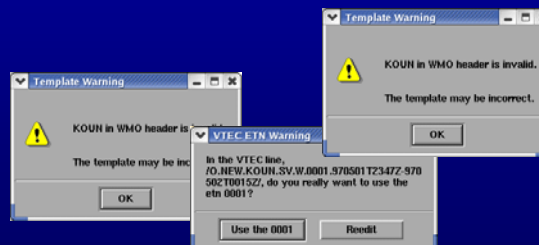
### Text QC in WarnGen Default Off

Duration: 00:00:18

Advance mode: Auto

### Text QC in WarnGen Default Off

- Modify textQC.config to turn on
  - In /awips/fxa/data/localization/nationalData



### Notes:

The textQC part of WarnGen continues to pop up numerous warning messages as it chokes on the templates we pull off of the release AWIPS CDs, and we can't figure out why. The default is turned off. If you want to turn them on, change the /awips/fxa/data/localization/nationalData/textQC.config file like you have on your local system.

## Slide 24

### SRM Can Use STI Motion in a Simulation

Duration: 00:00:14

Advance mode: Auto

### SRM Can Use STI Motion in a Simulation

- If archived "STImotion"



### Notes:

In a simulation you can now use the "Average Storm Motion from STI" for your SRM product if you archived the /data/fxa/radar/xxxx/STImotion files.

## Slide 25

### Some Bugs Were Fixed in WES5.0

Duration: 00:00:21

Advance mode: Auto

### Some Bugs Were Fixed in WES5.0

- DMD
  - missing subdirectories cause Tcl/Tk error popup
- FFMP
  - Data creation failed
    - Incomplete directory structure
    - Hung processes
  - FFMP failed in simulation
    - Immediately after creating data



### Notes:

A number of bugs were fixed in WES5.0. Missing subdirectories in the DMD radar subdirectory would cause a Tcl/Tk popup error. FFMP data would fail to create due to incomplete data structures and sometimes hung processes. Also the simulation would fail immediately after creating data if the simulator wasn't restarted. All these and a few more were fixed in WES5.0.

## Slide 26

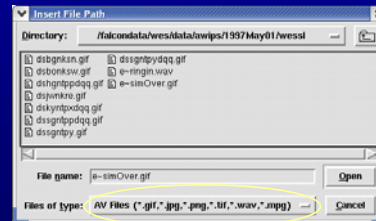
### WESSL Can Display Additional Image Formats

Duration: 00:00:16

Advance mode: Auto

### WESSL Can Display Additional Image Formats

- .jpg .png .tif added



### Notes:

Previous versions of WESSL were only able to display .gif image files. Starting in WESSL 5.0, you will have the ability to display many more image types including .jpg, .png and .tif.

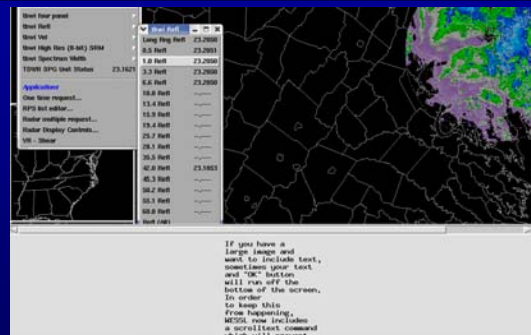
## Slide 27

### Text Used to Run Off Bottom of WESSL Pop-Up Windows with Large Images

Duration: 00:00:01

Advance mode: Auto

### Text Used to Run Off Bottom of WESSL Pop-Up Windows with Large Images



### Notes:

Text which accompanied large image files often ran off the bottom of the display screen and was not able to be made visible.

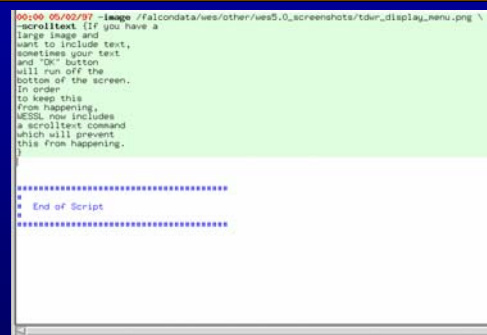
## Slide 28

### Use Scrolltext Option in Builder to Add Scrollbar for Long Lines of Text

Duration: 00:00:01

Advance mode: Auto

### Use Scrolltext Option in Builder to Add Scrollbar for Long Lines of Text



### Notes:

WESSL 5.0 has a new “-scrolltext” option available which was designed to combat this problem. If you come across the problem of text running off the display screen, switch from using the “-text” option to using the “-scrolltext” option.

## Slide 29

### Scrollbar Prevents Long Text lines From Disappearing Off Bottom

Duration: 00:00:01

Advance mode: Auto

### Scrollbar Prevents Long Text lines From Disappearing Off Bottom



### Notes:

The “-scrolltext” option adds a vertical scrollbar to the right of your text, allowing the user to view all lines of text regardless of length. This is very helpful when adding text to large radar, model or satellite images.

## Slide 30

### WES5.0 Wrap Up

Duration: 00:00:17

Advance mode: Auto

### WES5.0 Wrap Up

- WES5.0
  - Deployed Aug. 1, 2005
  - Know what has changed
  - Save yourself some trouble



### Notes:

As of August 1, 2005, WES5.0 has been officially released. Hopefully you will have a better idea of the changes and impacts of WES5.0, which might save yourself some hassle after installation.

## Slide 31

### WES6.0+ Potential Dates and Future Improvements

Duration: 00:01:36

Advance mode: Auto

### WES6.0+ Potential Dates and Future Improvements



### Notes:

WES6.0 development started before WES5.0 was released though at the time of this presentation, it is still very early in the development cycle. The WES6.0 release will be tied to OB6, which is supposed to be out sometime in mid October of 2005 as of this mid-August recording date. So if we look into our crystal ball to forecast when WES6.0 might be fielded, mid October of 2005 is our best guess as of this mid-August recording.

In addition to OB6.0, we have a number of other improvements we are working on incorporating into WES. Our ability to get more capabilities in WES is



		<p>strongly tied to the affects OB6.0 will have on WES, which are unknown at this time. One of the major upgrades that is necessary is to migrate from using flat files for WarnGen in WES to using the POSTGRES database. Using POSTGRES will make development easier, and it will allow for more AWIPS functionality to be added in the future.</p> <p>The Graphical Forecast Editor (GFE) with the Graphical Hazards Generator (GHG) is also a strong candidate for inclusion into WES6.0 to be able to handle the longer fused warning operations. We would like to get GFE/GHG into WES well before it is needed for the simulations component of the Winter Weather AWOC, slated for the Summer and Fall of 2006.</p> <p>We would also like to package up the Linux version of the ORPG with the WES to support case generation from Level II data archived at NCDC. Farther into the future we would like to have the ORPG running during a simulation to allow folks to generate cross sections during simulations.</p> <p>These are just some of the potential future improvements to WES in versions 6.0 or later. As of now we are planning to continue releasing WES following the major releases of AWIPS into 2006, and perhaps beyond.</p> <p>This concludes the WES5.0 release presentation.</p>
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## Slide 32

### NOAA's NWS Weather Event Simulator Version 5.0

Duration: 00:00:28


Advance mode: Auto




**NOAA's NWS Weather Event Simulator  
Version 5.0**

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Michael Magsig<sup>12</sup> and Timothy Decker<sup>12</sup>  
August 2005  
[Michael.A.Magsig@noaa.gov](mailto:Michael.A.Magsig@noaa.gov)  
[Timothy.B.Decker@noaa.gov](mailto:Timothy.B.Decker@noaa.gov)



<sup>1</sup>Cooperative Institute for Mesoscale Meteorological Studies (CIMMS)  
and  
<sup>2</sup>NOAA's Warning Decision Training Branch (WDTB)



### Notes:

This concludes the presentation on WES5.0. We are interested in making future presentations more useful, so please provide any feedback by email to Mike and/or Timm at the above email addresses.